

For Review
IN reply: 16-34

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the Application:

Listing of Claims:

Claim 1 (withdrawn): A method for altering gene expression, comprising:

providing a plurality of target cells or non-human organisms each expressing a chimeric RNA transcript that has a subject RNA operably linked to a universal target RNA, wherein at least two of the plurality of target cells or non-human organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said plurality of target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA; and

introducing into said plurality of target cells or non-human organisms a universal interfering RNA targeting said universal target RNA,

wherein said universal interfering RNA is an siRNA or shRNA.

Claim 2 (withdrawn): The method of Claim 1, wherein said step of providing said plurality of cells or non-human organisms comprises the steps of:

providing a plurality of expression cassettes each ~~expressing~~ directing the expression of said chimeric RNA transcript, and

introducing said plurality of expression cassettes into a plurality of target cells or non-human organisms.

Claim 3 (withdrawn): The method of Claim 1, wherein the plurality of target cells or non-human organisms express an endogenous equivalent of the subject RNA, and carry out transitive RNA interference.

Claim 4 (withdrawn): The method of Claim 1, wherein the step of introducing said universal interfering RNA is by way of introducing a DNA that directs the in vivo transcription of said universal interfering RNA.

Claim 5 (withdrawn): The method of Claim 1, wherein each of said target cells or non-human organisms contains an expression cassette that directs the expression of said universal interfering RNA and the step of introducing said universal interfering RNA is by way of inducing the in vivo transcription of said universal interfering RNA from said expression cassette.

Claim 6 (withdrawn): The method of Claim 1, wherein the step of introducing said universal interfering RNA comprises administering to said target cells or non-human organisms a universal interfering RNA synthesized outside of the target cells or non-human organisms.

Claim 7 (withdrawn): The method of Claim 1, wherein said universal target RNA is located in a non-coding region of the chimeric RNA transcript.

Claim 8 (withdrawn): The method of Claim 1, wherein said chimeric RNA transcript encodes a fusion protein comprising a first amino acid sequence encoded by said subject RNA, and a second amino acid sequence encoded by said universal target RNA.

Claim 9 (withdrawn): The method of Claim 8, wherein said universal target RNA is positioned either at the 3' end of, at the 5' end of, or within, the subject RNA.

Claim 10 (withdrawn): The method of Claim 8, wherein said second amino acid sequence is a peptide selected from the group consisting of antigenic determinants, epitopes, fluorescent peptides, bioluminescent peptides and enzymes including alkaline phosphatase, horseradish peroxidase, and β -galactosidase.

Claim 11 (withdrawn): The method of Claim 1, further comprising the steps of:

detecting measurable differences in said plurality of target cells or non-human organisms before and after introduction of said universal interfering RNA;

wherein the effects of altering gene expression are revealed through the differences in said plurality of target cells or non-human organisms before and after introduction of said universal interfering RNA.

Claim 12 (withdrawn): A method of altering gene expression comprising:

providing a plurality of target cells or non-human organisms capable of transitive RNA interference, each expressing a chimeric RNA transcript that has a subject RNA operably linked to a universal target RNA, wherein at least two of the plurality of target cells or non-human organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said plurality of target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA; and

introducing into said plurality of target cells or non-human organisms a universal interfering RNA targeting said universal target RNA,

wherein said universal interfering RNA is an siRNA or shRNA, and

wherein said chimeric RNA transcripts are degraded by a primary RNA interference response induced by said universal interfering RNA, and homologous transcripts encoded by endogenous genes are degraded by a transitive, secondary RNA interference response.

Claim 13 (withdrawn): The method of Claim 12, wherein the step of introducing said universal interfering RNA is by way of introducing a DNA that directs the in vivo transcription of said universal interfering RNA.

Claim 14 (withdrawn): The method of Claim 12, wherein each of said target cells or non-human organisms contains a transcription cassette that directs the expression of said universal interfering RNA and the step of introducing said universal interfering RNA is by way of inducing the in vivo transcription of said universal interfering RNA from said transcription cassette.

Claim 15 (withdrawn): The method of Claim 12, wherein said target cells or non-human organisms are selected from the group consisting of plant cells, nematode cells, plants, and nematodes.

Claim 16 (currently amended): A kit comprising, in a compartmentalized carrier:

a plurality of expression vectors each comprising an expression cassette that directs the expression of a chimeric RNA transcript that has a subject RNA operably linked to a universal target RNA, wherein the expression cassettes of at least two of the plurality of expression vectors ~~express~~ direct the expression of chimeric RNA transcripts with different subject RNAs, and wherein the expression cassettes of all of said plurality of expression vectors ~~express~~ direct the expression of chimeric RNA transcripts with the same universal target RNA; and

a universal interfering RNA targeting said universal target RNA, or an interfering RNA transcription vector that directs the expression of said universal interfering RNA, wherein said universal interfering RNA is an siRNA or shRNA.

Claim 17 (original): The kit of Claim 16, wherein said plurality of expression vectors are arranged in an addressable array on a solid support.

Claim 18 (currently amended): A kit comprising, in a compartmentalized carrier:

a plurality of target cells or non-human organisms each expressing a chimeric RNA transcript that has a subject RNA operably linked to a universal target RNA, wherein at least two of the plurality of target cells or non-human organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said plurality of target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA; and

a universal interfering RNA targeting said universal target RNA, or an expression vector that directs the expression of said universal interfering RNA, wherein said universal interfering RNA is an siRNA or shRNA.

Claim 19 (currently amended): The kit of Claim 18 wherein said plurality of target cells or non-human organisms is selected from the group consisting of plant cells, plant tissues, plant seeds, nematode cells, plants and nematodes.

Claim 20 (currently amended): The kit of Claim 18, wherein said plurality of target cells or non-human organisms are arranged in an addressable array on a solid support.

Claim 21 (currently amended): The kit of Claim 16, wherein said plurality of expression vectors comprises 10 or more vectors wherein at least 10 of the expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with different subject RNAs, and wherein all of said expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with the same universal target RNA.

Claim 22 (currently amended): The kit of Claim 16, wherein said plurality of expression vectors comprises 100 or more vectors wherein at least 100 of the expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with different subject RNAs, and wherein all of said expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with the same universal target RNA.

Claim 23 (currently amended): The kit of Claim 16, wherein said plurality of expression vectors comprises 1000 or more vectors wherein at least 1000 of the expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with different subject RNAs, and wherein all of said expression vectors contain expression cassettes that direct the expression of chimeric RNA transcripts with the same universal target RNA.

Claim 24 (currently amended): The kit of Claim 18, wherein said plurality of plurality of target cells or non-human organisms comprises 10 or more cells or non-human organisms each expressing a chimeric RNA transcript, wherein at least 10 of the cells or non-human

organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA.

Claim 25 (currently amended): The kit of Claim 18, wherein said plurality of plurality of target cells or non-human organisms comprises 96 or more cells or non-human organisms each expressing a chimeric RNA transcript, wherein at least 96 of the cells or non-human organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA.

Claim 26 (currently amended): The kit of Claim 18, wherein said plurality of plurality of target cells or non-human organisms comprises 1000 or more cells or non-human organisms each expressing a chimeric RNA transcript, wherein at least 1000 of the cells or non-human organisms express chimeric RNA transcripts with different subject RNAs, and wherein all of said target cells or non-human organisms express chimeric RNA transcripts with the same universal target RNA.

Claim 27 (previously presented): The kit of Claim 16 wherein said chimeric RNA transcript encodes a fusion protein comprising a first amino acid sequence encoded by said subject RNA, and a second amino acid sequence encoded by said universal target RNA.

Claim 28 (previously presented): The kit of Claim 27 wherein said second amino acid sequence is a detectable peptide tag.

Claim 29 (previously presented): The kit of Claim 28 wherein said detectable peptide tag is fused to the carboxyl-terminus of said first amino acid sequence.

Claim 30 (previously presented): The kit of Claim 28 wherein said detectable peptide tag is either an epitope tag selected from influenza virus hemagglutinin, Simian Virus 5 (V5),

polyhistidine, or c-myc; or an enzymatic tag selected from alkaline phosphatase, horseradish peroxidase, or β -galactosidase; or a fluorescent peptide.

Claim 31 (previously presented): The kit of Claim 18 wherein said chimeric RNA transcript encodes a fusion protein comprising a first amino acid sequence encoded by said subject RNA, and a second amino acid sequence encoded by said universal target RNA.

Claim 32 (previously presented): The kit of Claim 31 wherein said second amino acid sequence is a detectable peptide tag.

Claim 33 (previously presented): The kit of Claim 32 wherein said detectable peptide tag is fused to the carboxyl-terminus of said first amino acid sequence.

Claim 34 (previously presented): The kit of Claim 32 wherein said detectable peptide tag is either an epitope tag selected from influenza virus hemagglutinin, Simian Virus 5 (V5), polyhistidine, or c-myc; or an enzymatic tag selected from alkaline phosphatase, horseradish peroxidase, or β -galactosidase; or a fluorescent peptide.